

(FILE 'HOME' ENTERED AT 17:44:11 ON 24 AUG 2001)

FILE 'USPATFULL' ENTERED AT 17:44:18 ON 24 AUG 2001

L1	577 S SERVER# NAME#
L2	142 S SET# (P) L1
L3	10811 S CLIENT# AND SERVER#
L4	199512 S NETWORK
L5	27 S TAG# AND L2
L6	374 S SERVER CONFIGURATION FILE
L7	82055 S FUNCTION# AND CONTEXT
L8	474 S MEMBERSHIP# AND L3
L9	9930 S L3 AND L4
L10	25 S L5 AND L9
L11	4 S L10 AND L6
L12	5 S L10 AND L8

L11 ANSWER 1 OF 4 USPATFULL
PI US 6185601 B1 20010206
TI Dynamic load balancing of a **network** of **client** and
server computers

AB Methods for load rebalancing by **clients** in a **network**
are disclosed. **Client** load rebalancing allows the
clients to optimize throughput between themselves and the
resources accessed by the nodes. A **network**, which implements
this embodiment of the invention, can dynamically rebalance itself to
optimize throughput by migrating **client** I/O requests from over
utilized pathways to under utilized pathways. **Client** load
rebalancing allows a **client** to re-map a path through a
plurality of nodes to a resource. The re-mapping may take place in
response to a redirection command from an overloaded node.

L11 ANSWER 2 OF 4 USPATFULL

PI US 6101508 20000808
TI Clustered file management for **network** resources
AB Methods for operating a **network** as a clustered file system is
disclosed. The methods involve **client** load rebalancing,
distributed Input and Output (I/O) and resource load rebalancing.
Client load rebalancing refers to the ability of a
client enabled with processes in accordance with the current
invention to remap a path through a plurality of nodes to a resource.
Distributed I/O refers to the methods on the **network** which
provide concurrent input/output through a plurality of nodes to
resources. Resource rebalancing includes remapping of pathways between
nodes, e.g. **servers**, and resources, e.g. volumes/file systems.
The **network** includes **client** nodes, **server**
nodes and resources. Each of the resources couples to at least two of
the **server** nodes. The method for operating comprising the acts
of: redirecting an I/O request for a resource from a first
server node coupled to the resource to a second **server**
node coupled to the resource; and splitting the I/O request at the
second **server** node into an access portion and a data transfer
portion and passing the access portion to a corresponding
administrative
server node for the resource, and completing at the second
server nodes subsequent to receipt of an access grant from the
corresponding administrative **server** node a data transfer for
the resource. In an alternate embodiment of the invention the methods
may additionally include the acts of: detecting a change in an
availability of the **server** nodes; and rebalancing the
network by applying a load balancing function to the
network to re-assign each of the available resources to a
corresponding available administrative **server** node responsive
to the detecting act.

L11 ANSWER 3 OF 4 USPATFULL

PI US 6067545 20000523
TI Resource rebalancing in networked computer systems
AB Methods for load balancing a **network** are disclosed. Resource
rebalancing includes remapping of pathways between nodes, e.g.
servers, and resources, e.g. volumes/file systems. Resource
rebalancing allows the **network** to reconfigure itself as
components come on-line/off-line, as components fail, and as components
fail back. In an embodiment of the invention a method for load
balancing

on a **network** is disclosed. The **network** includes **server** nodes and **resources**. Each of the **resources** coupled to at least two of the **server** nodes. The method for load balancing comprises the acts of detecting a change in an availability of the **server** nodes; defining a first set of available **server** nodes and a second set of available **resources** and selecting for each one of the members of the second set a corresponding member of the first set to **server** as the administrative **server** for handling an administrative portion of an I/O request for the corresponding resource of the second set. In an alternative embodiment of the invention the method for load balancing comprises the act of detecting a change in an availability of the **server** nodes; applying a load balancing function to the **network** responsive to at least two attributes of each of the **server** nodes and the **resources**, responsive to the detecting act and assigning based on a result of the load balancing function each of the **resources** to a corresponding available **server** node responsive to the applying act.

L11 ANSWER 4 OF 4 USPATFULL

PI US: 6044367 20000328

TI Distributed I/O store

AB The current invention provides a method for improving throughput to or from a resource by allowing multiple **servers** to concurrently access the resource without affecting the integrity of the resource. Generally, by allowing one **server** to handle the administrative management of a resource, while allowing all **servers**, including the administrative **server**, to handle the actual passing of data associated with the I/O request, allows for increased bandwidth between **clients** and the resource. An I/O request to a first **server** node is converted into an access portion and a data transfer portion. The access portion is passed to a corresponding administrative **server** node for the resource. Subsequently, the administrative **server** may issue an access grant to the first **server** node. In response, the first **server** completes the data transfer for the resource.